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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/206,216	12/05/1998	JEAN-PIERRE DATH	F-721	5195

25264 7590 04/25/2003

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EXAMINER

NGUYEN, TAM M

ART UNIT PAPER NUMBER 28

1764

DATE MAILED: 04/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/206,216

Applicant(s)

DATH ET AL.

Examiner

Tam M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-20 and 37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-20 and 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

In view of the appeal brief filed on December 17, 2002, PROSECUTION IS HEREBY REOPENED. New ground rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 17-20 and 37 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 09/206,208. Although the conflicting claims are not identical, they are not patentably distinct from each other because both process claims disclose the catalytic cracking of an olefin to produce propylene by using a dealuminated catalyst. The present claimed process does not disclose the amount of diene in the feedstock. However, the claimed process of the copending application does not limit the amount of diene in the feedstock. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the present claimed catalyst by using an olefinic feed comprising less than 0.1 wt.% because one of skill in the art would use any olefinic feedstock including the present claimed feedstock and it would be expected that the results would be the same or similar when using the present claimed feedstock in the process of claims 1-10 because of the similarities between the two process.

Claims 17-10 and 37 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 09/206,207. Although the conflicting claims are not identical, they are not patentably distinct from each other because both process claims disclose the catalytic cracking of an olefin to produce propylene by using a dealuminated catalyst. The process of claim 1-16 does not disclose the amount of diene in the feedstock. However, the claimed process of the copending application does not limit the amount of diene in the feedstock. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the present claimed catalyst by using an olefinic feed comprising less than 0.1

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wt.% because one of skill in the art would use any olefinic feedstock including the present claimed feedstock and it would be expected that the results would be the same or similar when using the present claimed feedstock in the process of claims 1-16 because of the similarities between the two process.

Claims 17-20 and 37 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 09/206,218. Although the conflicting claims are not identical, they are not patentably distinct from each other because both process claims disclose the catalytic cracking of an olefin to produce propylene by using a dealuminated catalyst. The present claimed process does not disclose that the catalyst is prepared as claimed in claims 1-16 of application 09/206,218. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the claimed process of the present application as claimed in the copending application because the present claimed catalyst is the same as the claimed catalyst of the copending application. Therefore, it would be expected that the outcome of the present claimed process would be the same or similar when preparing the catalyst as claimed in the claimed process of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 17-20 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0109060 in view of either Glockner et al. (4,078,011) or Cosyns et al. (4,347,392).

The EP 0109060 reference discloses a process of cracking a hydrocarbon feed which comprises olefins having 4 to 12 carbon atoms into propylene and some ethylene. The feed is contacted with an alumino-silicate having a crystalline and zeolitic structure. The process is conducted at a temperature of from 400<sup>0</sup> C to 600<sup>0</sup> C, at about atmospheric pressure, and at a

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space velocity of from 5 to 200 h<sup>-1</sup>. The behavior of the silicalites depends on the conversion pressure. If the pressure is atmospheric, the space velocity must be lower than 50 hr<sup>-1</sup>. If the pressure is from 1.5 to 7.5 atmospheres, the space velocity must be above 50 hr<sup>-1</sup>. The examples indicate selectivity of C<sub>4</sub> saturated compounds of less than 5 wt. %. Therefore, at least 95% of the C<sub>2</sub> and C<sub>3</sub> compounds present in the product must be olefins. The data in the table also indicates that propylene yield is within the claimed range and indicate that olefin contents of the feed and product are within  $\pm 15$  % of each other. Alternatively, it is inherent that the EP reference would have olefins of the feedstock and of the effluent are within plus and minus 15 of each other because of the similarities by the EP process and the claimed process in terms of feedstock, catalyst, and operating conditions. It is noted that the reference does not specifically disclose a ratio of silicon/aluminum between 180 and 1000 or between 350 and 500. However, the reference discloses that the catalyst has a SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> molar ratio equal to or greater than 350. This is equivalent to silicon/aluminum atomic ratios of equal to or greater than 175. Therefore, the examiner's position is that the claimed ratio of silicon/aluminum is embraced by the reference. (See page 1, lines 20-35; page 3, lines 18-40; page 5, lines 13-19; pages 6-7; claims 1-3)

Regarding claims 20 and 37, the EP reference does not specifically disclose that the atomic ratio of silicon to aluminum is from 180-1000. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the EP catalyst by using a catalyst having an atomic ratio of silicon to aluminum of 180-1000 because the EP reference discloses that a catalyst having an atomic ratio of silicon to aluminum greater than 175 can be used in the process.

Regarding claims 17-20 and 37, the EP 0109060 reference does not specifically disclose that the feed contains dienes, and does not disclose the step of hydrogenation of dienes.

Glockner discloses a process for selectively hydrogenating dienes at a temperature of from 150 to 500° F (65 to 260° C), at a pressure of from 1 to 1000 atm (1-1000 bar), and at LHSV of from 1 to 15. (See entire patent)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the EP 0109060 process by including a selective hydrogenation as disclosed by Glockner because the EP process does not require the presence of dienes and one of ordinary skill in the art would look to the prior art processes such as disclosed by Glockner and Cosyns to remove dienes if such compounds are not desired.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (703) 305-7715. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 305-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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A handwritten signature in black ink, appearing to read 'Tam', written over a horizontal line.

Tam M. Nguyen  
Examiner  
Art Unit 1764

TN  
April 22, 2003

A handwritten signature in black ink, appearing to read 'Glenn Caldarola', written in a cursive style.

Glenn Caldarola  
Supervisory Patent Examiner  
Technology Center 1700